

**WHAT IS CLAIMED IS:**

1. An ethernet communications system for a power monitoring system, said ethernet communications system comprising an ethernet communication device operative in association with a power monitoring device, said ethernet communications device  
5 including:

a processor capable of functioning as a master device,  
a communications interface capable of gathering, under control of said processor real-time information from one or more slave devices;  
said processor and said communications interface further being operative for  
10 presenting said real-time information in a format useable by Hypertext Markup Language (HTML) pages.

2. The system of claim 1 wherein said processor is further capable of functioning as a slave device.  
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3. The system of claim 1 wherein said processor and said slave device are coupled, by said communications interface, in a daisy chain and wherein said ethernet communications device is capable of using any of a plurality of protocols for either full duplex or half duplex communications, including SyMax, Modbus and Jbus.  
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4. The system of claim 1 said ethernet communications device further including a server coupled with said communications interface, said server operating for sending data to a browser for dynamically formatting and verifying real-time data gathered by said processors and communications interfaces using JavaScript and VB  
25 script.

5. The system of claim 1, said ethernet communications device further including a server operatively coupled with said communications interface, and further including a web browser capable of accessing said server and at least one processor in  
30 communication with said server, said web browser generating a login, and said processor responding to said login by generating an access token for said browser for permitting access by said browser for a predetermined amount of time

6. The system of claim 1 wherein said communications interface comprises a single physical interface chip capable of supporting dual physical ethernet media types.

5 7. The system of claim 6 wherein said communications interface device comprises a fast ethernet transceiver which provides a media independent interface for attachment to a 10/100 media access controller, and is capable of directly driving an RJ45 interface through magnetics and termination resistors and also provides a pseudo-ECL interface for use with 100Base Fx fast fiber transceivers.

10 8. The system of claim 1 wherein said processor includes a Hypertext Transfer Protocol (HTTP) server for facilitating communications with an internet browser.

15 9. An industrial power metering system comprising:  
a power monitoring device; and  
an ethernet communications device operatively coupled with said power monitoring device;  
said ethernet communications device including a processor and a communications  
20 interface capable, under control of said processor, of gathering real-time information from said power monitoring device; and a web server capable of communicating through said communications interface for dynamically gathering, formatting and verifying real-time information from the power monitoring device.

25 10. The system of claim 9 wherein said processor is further capable of functioning as a slave device.

11 The system of claim 9 wherein said processor and said slave device are coupled, by said communications interface in a daisy chain and wherein said ethernet  
30 communications devices are capable of using any of a plurality of protocols for either full duplex or half duplex communications, including SyMax, Modbus and Jbus.

12. The system of claim 9 wherein said web server operates for sending data to a browser for dynamically formatting and verifying real-time data gathered by said processors and communications interfaces using JavaScript and VB script.

5 13. The system of claim 9 and further including a web browser capable of accessing said web server, said web browser generating a login, and said processor responding to said login by generating an access token for said browser for permitting access by said browser for a predetermined amount of time.

10 14. The system of claim 8 wherein said communications interface comprises a single physical interface chip capable of supporting dual physical Ethernet media types.

15 15. The system of claim 14 wherein said communications interface device comprises a fast Ethernet transceiver which provides a media independent interface for attachment to a 10/100 media access controller, and is capable of directly driving an RJ45 interface through magnetics and termination resistors and also provides a pseudo-ECL interface for use with 100Base Fx fast fiber transceivers

20 16. The system of claim 9 wherein said processor includes a Hypertext Transfer Protocol (HTTP) server for facilitating communications with an internet browser.

25 17. An ethernet communications method for a power monitoring system, said method comprising gathering real-time information from said power monitoring device and presenting said real-time information in a format useable by Hypertext Markup Language pages.

18. The method of claim 17 wherein said gathering includes gathering information from one or more slave devices.

19. The method of claim 17 including coupling said slave devices in a daisy chain and further including using any of a plurality of protocols for either full duplex or half duplex communications, including SyMax, Modbus and Jbus.

5 20. The method of claim 17 and further including dynamically formatting and verifying real-time data gathered by said gathering, using JavaScript and VB script.

21. The method of claim 17, said presenting including using a server and further including accessing said server from a web browser, said web browser generating  
10 a login, and said server responding to said login by generating an access token for said browser for permitting access by said browser for a predetermined amount of time.

22. The method of claim 17 including supporting dual physical ethernet media types using a single physical interface chip.

15 23. The method of claim 22 including providing a media independent interface for attachment to a 10/100 media access controller, directly driving an RJ45 interface and providing a pseudo-ECL interface for use with 100Base Fx fast fiber transceivers.

20 24. An industrial power metering method comprising.  
monitoring power; and  
gathering real-time information from said power monitoring; and  
dynamically gathering, formatting, verifying and communicating real-time  
information from the power monitoring device in a format usable by HTML pages.

25 25. The method of claim 24 wherein said gathering includes gathering information from one or more slave devices.

26. The method of claim 24 including coupling said slave devices in a daisy  
30 chain and further including using any of a plurality of protocols for either full duplex or half duplex communications, including SyMax, Modbus and Jbus

27. The method of claim 24 and further including dynamically formatting and verifying real-time data gathered by said gathering, using JavaScript and VB script.

28. The method of claim 24, said presenting including using a server and  
5 further including accessing said server from a web browser, said web browser generating a login, and said server responding to said login by generating an access token for said browser for permitting access by said browser for a predetermined amount of time.

29. The method of claim 24 including supporting dual physical ethernet media  
10 types using a single physical interface chip.

30. The method of claim 29 including providing a media independent interface for attachment to a 10/100 media access controller, directly driving an RJ45 interface and providing a pseudo-ECL interface for use with 100Base Fx fast fiber transceivers.  
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31. An ethernet communications system for a power monitoring system, said system comprising:  
means for gathering real-time information from said power monitoring device; and  
means for presenting said real-time information in a format useable by Hypertext  
20 Markup Language pages.

32. The system of claim 31 wherein said means for gathering includes means for gathering information from one or more slave devices.

25 33. The system of claim 31 including means for said slave devices in a daisy chain and further including means for using any of a plurality of protocols for either full duplex or half duplex communications, including SyMax, Modbus and Jbus.

34. The system of claim 31 and further including dynamically formatting and  
30 verifying real-time data gathered by said gathering, using JavaScript and VB script.

35. The system of claim 31, said presenting including server means and further including means for accessing said server means from a web browser, said web browser generating a login, and said server means responding to said login by generating an access token for said browser for permitting access by said browser for a predetermined amount  
5 of time.

36. The system of claim 31 including means for supporting dual physical ethernet media types using a single physical interface chip.

10 37. The system of claim 36 including a media independent interface means for attachment to a 10/100 media access controller, means for directly driving an RJ45 interface and means for providing a pseudo-ECL interface for use with 100Base Fx fast fiber transceivers.

15 38. An ethernet communications card apparatus for a power monitoring device, said Ethernet communications card comprising;  
a processor capable of functioning as a master device;  
a communications interface capable of gathering, under control of said processor real-time information from one or more slave devices;  
20 said processor and said communications interface further being operative for presenting said real-time information in a format useable by Hypertext Markup Language (HTML) pages.

39. The apparatus of claim 38 wherein said communications interface  
25 comprises a single physical interface chip capable of supporting dual physical Ethernet media types.

40. The apparatus of claim 38 wherein said communications interface device comprises a fast Ethernet transceiver which provides a media independent interface for  
30 attachment to a 10/100 media access controller, and is capable of directly driving an RJ45 interface through magnetics and termination resistors and also provides a pseudo-ECL interface for use with 100Base Fx fast fiber transceivers.

41. The apparatus of claim 38 wherein said processor includes a Hypertext Transfer Protocol (HTTP) server for facilitating communications with an internet browser.

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